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CROP WATCH

University of Nebraska Cooperative Extension
Institute of Agriculture and Natural Resources

No. 97-14
June 20, 1997

Assessing hail damage and determining management options

In the last week corn fields in several counties took some pretty hard knocks from passing hail and thunderstorms, leaving producers to determine potential losses and whether replanting is a viable alternative at this point in the season. While hail damage has not been widespread so far this year, it will continue to be a very real threat for the next six to ten weeks.

Hamilton County was among the hardest hit by last week's storm. Andy Christiansen, Extension Educator in Hamilton County, estimated that 50 sections of crop land between the Interstate 80 Giltner exit and Henderson were affected. While most damage was minor, at least 10 sections of cropland west of Henderson sustained severe damage, including several

overturned pivots. Several neighboring counties also sustained damage as well as several north central and southeast counties.

Damage assessment and management options vary according to plant stage, however the procedures are fairly similar from crop to crop and stage to stage:

- 1) estimate the growth stage;
- 2) assess the damage; and
- 3) consider options if yield potentials are low.

Replanting may not be a very viable option in many cases. Producers will need to consider potential yield loss of existing crop vs replanting costs and potential reduced yields; herbicide limitations, and timeliness of replanting. In some cases, reduced yield of a hail-damaged field may be higher than the potential yield from replanting.

It's almost too late to replant corn and replanting soybeans now could mean up to a 25% potential yield reduction. Estimated yield losses for sorghum are slightly less than for soybeans at this time. Producers also will need to consider how soon they could realistically replant. Heavy rain may accompany hail, delaying replanting. In addition, previous herbicide applications may limit replanting options and desired seed may be limited or unavailable. (See the June 6 *Crop Watch* for replanting options after specific herbicide applications.)

Three NebGuides — for corn, soybeans and sorghum — offer valuable information on assessing hail damage and estimating potential yield losses at various stages. Correct assessment of potential yield is essential when determining continued inputs (herbicides, tillage, irrigation, etc.) And managing harvest. Check with your local Cooperative Extension office for copies of *Assessing Hail Damage to Corn* (G86-803); *Soybean Yield Loss Due to Hail Damage* (G85-762) and *Sorghum Yield Loss Due to Hail Damage* (G86-812). When possible, wait 7-10 days to determine loss. By that time, regrowth of living plants will have begun and discolored dead tissue will be apparent. Also, some plants initially surviving a storm may soon die because of disease infection entering at the site of plant damage.

The corn NebGuide addresses losses due to stand reduction and defoliation as well as when the plant is most susceptible to damage. Approximately three weeks after emergence, all nodes and internodes have developed, and the growing point is elevated above the soil surface due to internode elongation. For the next four to five weeks, the plant grows rapidly and becomes increasingly vulnerable to hail damage up through the tasseling stage, which is the most

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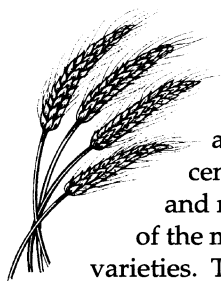


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Wheat diseases developing, damage not widespread



Leaf rust is moderately severe in south central Nebraska and areas of west central Nebraska and may affect yields of the more susceptible varieties. The effects should

be minimal, however, because the rust is late enough and the wheat has already developed to the milk stage. Those varieties with the heaviest rusting were Karl 92, Ike, Scout 66, Alliance and TAM 107, based on observations of the variety trials in those areas. It is too late for fungicide applications.

Wheat streak mosaic/High Plains virus diseases are present in the west central area but are not widespread. When they occur together, the wheat crop is devastated. The next two weeks will be critical in monitoring haled wheat for volunteer wheat development.

Control volunteer wheat

The worst outbreaks of wheat streak mosaic/High Plains virus this year resulted from failure to control volunteer wheat that was haled before harvest in 1996. This year's pattern fits the classical epidemiology of "haled wheat - volunteer wheat - mosaic/High Plains".

One volunteer wheat field can be a source of mites and virus for neighboring fields planted this fall. It is important that volunteer control be a cooperative effort among neighbors.

Other active diseases are **barley yellow dwarf**, **tan spot**, **Septoria leaf blotch** and **Cephalosporium stripe**. None of these are widespread or severe.

John Watkins
Extension Plant Pathologist

Greenbugs found in sorghum

Greenbugs are present in some sorghum fields in southeast Nebraska. Although greenbug numbers are generally low, populations could build to damaging levels in the next seven to ten days if weather conditions remain mild. Hard rains or strong hot winds often wipe out greenbug infestations on seedling sorghum so delay insecticide use until the greenbug treatment threshold is reached.

The University of Nebraska greenbug treatment threshold for seedling sorghum is: "greenbug colonies are present on 10-20% of the plants AND visible yellowing or spotting is present on the leaves." Depending on the greenbug biotype present, greenbug resistant sorghum generally supports higher numbers of greenbugs before damage is visible compared to susceptible

sorghum. Although biotype E has been the predominate greenbug biotype for the past several years, we expect biotype I to become predominate in the near future, possibly this year.

Only a few biotype I resistant sorghums were available this year. For more information on greenbug management see the Department of Entomology home page (<http://ianrwww.unl.edu/ianr/entomol/pmguides/sorguide.htm>) or NebGuide G87-838, *Management of Greenbugs in Sorghum*.

Some chinch bug damage has been reported in southeast Kansas but so far we have not had any reports of significant chinch bug populations or damage in Nebraska.

Z B Mayo
Extension Entomologist



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Lisa Brown Jasa, Editor

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Should hail damaged crops be fertilized?

Recent hail storms have prompted questions about management options, including whether additional fertilizer will help the hail-damaged crop recover sooner, resist disease or enhance yield.

The bottom line is most likely, no.

Some additional nitrogen and sulfur might make the crop look better but may not improve yield. Other nutrients (P, K, Zn) applied before or at planting are still in the soil and will provide sufficient amounts for the remaining crop. Since soybeans do not usually respond to nitrogen, no additional fertilizer is recommended. For dry beans, if additional nitrogen has not been applied, follow guidelines in NebGuide G92-1102. Remember, the hail and additional nitrogen will delay maturity.

For corn and sorghum, applying additional nitrogen and sulfur

fertilizer should be based on yield potential and how much of the total crop requirements have already been applied. If all of the nitrogen or sulfur has not been applied, additional fertilizer nitrogen or sulfur will be needed to meet the crop's yield potential.

In many cases the total amount of nitrogen or sulfur has already been applied for an even higher yield potential than exists after the hail storm. Yield potential is often reduced 10-40% depending on hail severity. In these situations, adding fertilizer is not likely to increase yields. If there was sufficient nitrogen for a 180 bushel crop, there will be sufficient nitrogen for a 120 bushel crop.

There is limited research on additional fertilizer response of hail damaged corn or other crops. Data from Kansas in the early 1980s showed no yield increase during three years if sufficient fertilizer had been applied prior to hail. Fertilizer combinations tested were 28-0-0, 12-0-0-26S, elemental sulfur and 10-34-0.

What about the effect of sulfur (S) or copper (Cu) to speed up the plant's recovery or to protect it from disease? Aren't sulfur or copper mixes used to suppress some leaf diseases? Yes, in many crops including dry beans, grapes, etc. The spray applied is concentrated (a 1-3% solution which is 10,000 to 30,000 parts per million) of inorganic or organic sulfur or copper mixes (Bordeaux mixture, lime-sulfur, carbamates, elemental sulfur, copper oxide). When 10 pounds of sulfur from 12-0-0-26 sulfur (ammonium thiosulfate) is applied in one inch of irrigation water through a center pivot, the sulfur concentration is approximately 120 ppm sulfur, a much lower level than the 1-3% concentrations normally used in sprays to suppress disease. Sulfur or copper applied through a center-pivot at usual field rates (5-10 lb S/a, 0.5-1 lb Cu/a) generally are not concentrated enough to suppress disease.

Gary Hergert, Extension Soils Specialist, West Central Research and Extension Center

Hail damage

(Continued from page 103)

critical period. Once past tasseling, hail causes progressively less yield loss as the plant approaches maturity.

With soybeans, yield loss predictions are based on: stage of growth and degree of plant damage, including leaf defoliation, stand reduction, stem damage, and pod damage. Stand reduction refers to the number of plants actually killed by hail; defoliation is measured as a percentage of the leaf area destroyed by the storm; and stem damage covers stem cutoff (stems completely cut off and removed from the plant) and stems bent over or broken.

With sorghum, yield loss predictions are based on two factors: growth stage and plant damage. Plant damage may be either direct (stand reduction, stalk damage and head damage) or defoliation.

Roger Elmore
Extension Crops Specialist
South Central Research and
Extension Center

Federal agency pays \$30 million for Nebraska hail damage in '96

In 1996 federal multi-peril crop insurance paid almost \$30 million to cover hail losses for all crops in Nebraska. This accounted for 57% of the \$51,986,148 paid out for all types of losses for all crops in Nebraska, according to Jay Waechter, field underwriter for eastern Nebraska, regional service office for the Risk Management Agency, formerly Federal Crop Insurance. These numbers do not reflect amounts paid by private insurance agencies to cover hail damage.

Nationally hail is estimated to cause more than \$52 million in reduced corn yield each year. Last year in Nebraska hail accounted for more than half of the amount paid for corn losses by the federal crop insurance agency.

Federal multi-peril insurance paid out for losses due to the following causes in 1996 in Nebraska: aflatoxin, cold wet weather, disease, drought, erosion, failure of irrigation source, fire, flood, freeze, frost, hail, excess heat, hot wind, insects, poor drainage, excess precipitation, tornado, wildlife, wind and winterkill.

Federal payments for multi-peril insurance losses, Nebraska, 1996

Crop	All losses	Hail losses
Corn	\$8,867,046	\$5,984,478
Soybeans	\$2,200,000	\$940,749
Wheat	\$14,300,000	\$5,200,000
All crops	\$51,986,148	\$29,732,535

Is cultivation really needed?

Producers sometimes wonder if cultivation is necessary or the best option for what they need to accomplish. Some believe that the crop responds to cultivation to the extent that they can see a growth difference overnight. Others are pressed for time, are afraid of root pruning, or hate to cultivate and they let a few weeds grow or use postemergence herbicides instead. Before heading to the field, producers should consider why they are cultivating and what other options they may have.

Reasons given for cultivation include weed control, rebuilding ridges, and aeration or loosening of the soil. While aeration of a poorly drained soil may be beneficial, most of Nebraska's soils are well drained and do not need aeration. Loosening the soil to enhance root growth is also not needed because the roots are usually several times deeper than the depth of cultivation. Cultivation does loosen the soil, allowing it to dry out, and reduces surface residue cover. This leaves the soil more prone to erosion and/or crusting and reduces the amount of residue that may be carried over to help with erosion control next

year. If, however, weeds are competing with the crop, cultivation may be a good option for broad spectrum weed control.

Yields from plots at the University of Nebraska Rogers Memorial Farm (10 miles east of Lincoln) support these observations. The plots, established in 1981 to evaluate six tillage systems, include no-till both with and without cultivation. There are plots at two locations on the farm ("north" set and "west" set) so that grain sorghum and soybeans can be grown in rotation, typical of dryland southeast Nebraska. For moisture conservation purposes, early preplant herbicide applications are used before weeds get started, eliminating the need for preplant burndown herbicides.

The no-till yields for the last ten years are shown in the table. The slight increase of 0.6 bu/A for soybeans and 1 bu/A for grain sorghum in the 10-year average yield was not enough to pay for the cost of the cultivation. With the exception of the west set of plots in 1993, 1994, and 1995, cultivation did not significantly affect the grain yield and the early preplant herbicide application kept the plots clean.

Removing these years from the average, cultivation tended to reduce the grain sorghum yield by 4.6 bu/A, probably because of soil moisture losses. This west set of plots does show the value of cultivation when it is needed for weed control.

In 1991, the combine carried shattercane seeds into the borders of the west set of plots when the grain sorghum was harvested. Harvest of the soybeans in 1992 spread the shattercane throughout the west plot area and the early preplant herbicide treatments had little effect on the shattercane. Future harvests continued to spread the seeds and cultivation reduced some of the shattercane competition 1993, 1994, and 1995. Though not originally part of the weed control plan, the entire west plot area was postemergence sprayed late with Fusilade in 1994, walked in 1995, and postemergence sprayed with Fusion in 1996 to control the shattercane. This effort "rescued" the plots. No shattercane was found in the grain sorghum this season and further postemergence treatments

(Continued on page 107)

No-till yields and yield change by cultivation in a grain sorghum/soybean rotation

Crop/System		Yield, bu/A, and percent change by cultivation for year and location										
Soybeans location	87	88	89	90	91	92	93	94	95	96	Avg	Adj
	n	w	n	w	n	w	n	w *	n	w		
NT w/o Cult	53.6	36.4	48.8	41.4	36.8	49.0	50.4	48.7	43.5	57.4	46.6	46.4
NT w/Cult	51.8	37.3	45.0	42.0	39.7	47.3	52.9	55.3	44.0	57.1	47.2	46.3
Cult diff, %	-3.4	2.5	-7.8	1.4	7.9	-3.5	5.0	13.6	1.1	-0.5	1.6	0.3
Milo location	87	88	89	90	91	92	93	94	95	96	Avg	Adj
	w	n	w	n	w	n	w *	n	w *	n		
NT w/o Cult	134.7	142.1	113.3	144.8	145.0	133.3	43.2	133.4	61.8	109.1	116.1	132.0
NT w/Cult	128.1	135.8	106.8	142.0	143.1	132.3	72.5	125.5	79.2	105.3	117.1	127.4
Cult diff, %	-4.9	-4.4	-5.7	-1.9	-1.3	-0.8	67.8	-5.9	28.2	-3.5	6.8	-3.6

* This year's data for this plot set not included in the adjusted average because of the shattercane problem.

Grasshoppers approach treatment levels; new method offers affordable control

Grasshopper hatch has been progressing for several weeks in western Nebraska, and treatment during the next two weeks should provide the most effective control. Extremely high populations have been developing in many areas, and are already causing noticeable damage. In several areas, cropland adjacent to hatching areas has been severely damaged. There is little doubt that grasshoppers will be a significant problem this summer in many of Nebraska's grasslands. Effective control measures must target grasshoppers before they become adults.

Gregg Rabe, Nebraska Department of Agriculture Entomologist, indicates that we are near the tail end of the grasshopper hatch. He has begun to see the later instars of the earlier hatching species and the early instars of the later hatching species. The best time for maximum effectiveness of control measures will be within the next two weeks unless unseasonably cool weather occurs.

Because of the cost of grasshopper control compared to the value of grassland, grasshopper control is seldom economically feasible to protect rangeland and pastures. However, recent research at the University of Wyoming has demonstrated the effectiveness and reduced cost of a new grasshopper control strategy in rangeland. This strategy has been termed Reduced Agent/Area Treatment (RAATs). This method uses reduced insecticide rates and alternate strip spraying during the early summer while the grasshoppers are small and more easily controlled. The insecticide showing the most effectiveness with this method is Sevin XLR (ultra-low volume, aerial applications) which is used at half the recommended rate (8 oz/A) instead of the full rate (16 oz/A). Also, with this method only 50 %

Alternate strip spraying can cut control costs by 60% and significantly lower the economic threshold for grasshoppers in rangeland.



of the area is treated by leaving every other spray strip untreated. This method cuts control costs by 60% and will significantly lower the economic threshold for grasshoppers in rangeland.

The Wyoming studies show that this method may reduce costs to as low as \$1.40 per acre while maintaining grasshopper control above 90%. Grasshopper control in the treated area lagged a little behind control in the full rate areas, but by six days after treatment both treatments showed the same level of control.

This dramatic success is thought to be attributed to two factors: grasshopper movement into the treated strips while the insecticide is still effective and the preservation of

natural enemies in the untreated strips. The insecticide needs to be applied when application conditions are optimal to achieve maximum effectiveness at these lower rates.

This control is best targeted at grasshoppers in the mid-instar stage, i.e. after they have passed the first couple instars but before they become adults. Control of very small grasshoppers may be reduced in the unsprayed strips because their movement into a treated strip will be limited.

Gary Hein, Extension Entomologist, Panhandle Research and Extension Center
Jack Campbell, Extension Entomologist, West Central

Cultivation *(Continued from page 106)*

are not planned. Even in 1996 the "cost" of Fusion was almost the same as cultivation when considering the yield difference due to cultivation.

Producers need to evaluate their weed pressures and control options in each field. Cultivation may be an economical, broad spectrum weed control option if the negative aspects of cultivation can be minimized. However, if only a couple weed species are present, a properly selected postemergence herbicide program may be the best option

when considering soil moisture and crop residue losses with cultivation.

For help evaluating potential yield reductions from weed pressures, selecting a postemergence herbicide program, and determining the economics of postemergence weed control, use the *WeedSoft* computer program developed by the University of Nebraska or refer to the 1997 *Herbicide Use Guide for Nebraska* (EC97-130) available from the University of Nebraska Cooperative Extension.

Paul Jasa
Extension Engineer

State mostly dry; soil reserves fairly good

Adequate soil moisture reserves are making up for precipitation deficits across eastern Nebraska.

Precipitation from April 1 to June 14 is averaging less than 80% of normal across the central, east central, south central, and south east districts (See page 110). The north-west (Panhandle) district is the only area recording above normal precipitation during this period.

Corn requires about 25 inches of water to produce average yields in rain-fed fields. If soil moisture recharge during the fall and spring is adequate, 10 to 14 inches of stored water is available for plant growth. Eastern Nebraska can expect about 18 inches of precipitation during a normal growing season. At 80% of normal precipitation, 14 inches could be expected. Precipitation and stored soil moisture will provide 24-28 inches of water for crop growth. Precipitation lower than 80% of normal will severely reduce yields.

It is early enough in the growing season to eliminate the precipitation deficit that has accumulated in eastern Nebraska; however, recent storms have not produced the widespread one- to two-inch rainfalls necessary to replenish depleted soil moisture reserves. Below normal temperatures have slowed crop growth and reduced water demands, which have helped offset dry conditions.

Newly emerged soybeans and sorghum are most vulnerable to the lack of precipitation at this point of the growing season. The young plants don't have adequate rooting systems to reach stored moisture underneath the top foot of soil. Corn has been relying on stored moisture and spotty precipitation, but will likely begin exhibiting signs of stress unless widespread precipitation occurs in the next few weeks. Corn water requirements will begin

to exceed 0.25 inches a day by July 1.

As of June 14, surveys conducted by the Nebraska Department of Agriculture indicated that subsoil moisture is adequate. The only areas showing shortfalls are the east central and southeast districts. Most of the shortfalls are appearing in the top one foot of the soil profiles. This survey is subjective and one would expect rapid changes in these observations if precipitation continues to be spotty.

Agricultural crops are now at a critical juncture of the growing season. If significant precipitation fails to materialize within the next 14 days, signs of crop stress should begin to rapidly appear. If we receive a generous rain event, the crop will have ample moisture for another three weeks of growth.

Al Dutcher
State Climatologist

Clinic update: cultural practices reduce diseases

Composting. Scientists have been exploring the possibility that compost may help control some diseases. Adding compost to potting mixes reduced damping off and root rot diseases. Phytophthora, a serious disease of many plants, has been reduced by adding compost and changing some cultural practices. Compost added to vegetable gardens reduced early blight, bacterial leaf spot and nematodes.

Gardeners who use compost know how it benefits the soil by conserving soil moisture and reducing the need for fertilizer. The possible reduction in disease in the garden is another excellent reason to compost.

Mowing. Although sound mowing practices are necessary for a healthy lawn throughout the growing season, it's especially true in summer. Mowing your lawn too short during hot, dry weather may cause serious damage. Kentucky bluegrass lawns should be mowed to about 2 inches during cool weather in spring and fall, and to 2.5-3 inches in summer. The additional leaf area during summer shades and cools the turfgrass crowns.

When mowing the lawn, try to remove no more than one-third of the total leaf area at one time. For instance,



a lawn mowed at a height of 3 inches should be cut when it reaches a height of 4 inches.

Removing more than 1/3 of the leaf area weakens the turfgrass and reduces its capability to withstand diseases and insects. Additionally, weakened turfgrass is more likely to be invaded by weeds.

Keep your mower blade sharpened throughout the growing season. A dull blade can tear and bruise grass blade tips, giving the lawn an off color and ragged appearance.

Turfgrass diseases to watch for include dollar spot caused by the fungal pathogen traditionally known as *Sclerotinia homeocarpa* and brown patch caused by *Rhizoctonia solani*. These diseases are common and can reduce your stand as well as its aesthetic value. Correct diagnosis of these diseases will aid in providing the most effective control.

Other plant diseases seen in the state include plum pockets on plum, damping off problems of corn and soybeans, cool temperature injuries of corn, some crown rot of corn, economically high counts of dagger nematodes in corn, and *Rhizoctonia* root rot of soybeans.

Diane Merrell, Coordinator
Plant and Pest Diagnostic Clinic

You asked about it . . .

What's causing purple fields?

First, it's purple sorghum ...

A producer from south central Nebraska asks: *What's causing my field of grain sorghum to appear purple?* It was planted to grain sorghum in 1996 and again in 1997 with Lariat for the herbicide. The pop-up fertilizer was 3 gallons of 10-34-0 + zinc. The bottom areas that came up first appear to be affected more than the upper portion that didn't come up until it rained, but purple plants can be seen in the entire field. Numbers range from 10% to 100%.

The purple plants appear to have the shoot burned like salt can do. We received 0.75 inch rain last night and many of the plants look like new roots are starting. Could the problem be salt burn? If roots are growing will the plant be OK?

Gary Hergert, Extension Soils Specialist at the West Central Research and Extension Center, responded: There's an old soil fertility truism: Plants without roots cannot take up nutrients. Sorghum is one of our most salt-sensitive grains and the 3 gallons of 10-34-0 would be sufficient to cause salt damage. With adequate soil moisture and some warmth, it should grow out of it in a week.

Now it's purple corn ...

An agronomist in south central Nebraska reported receiving several questions on purple corn. On a field in Phelps County, he took some soil samples near the purple spots and some a short distance away that did not show purpling. The purple area had 10ppm P_2O_5 and the green spot had 84ppm. Is there some reason these low phosphorus areas are happening this year or have they been there and only weather conditions caused them to express themselves as purple corn this year?

Charles Shapiro, Extension Soils Specialist at the Northeast Research and Extension Center, responded: I

haven't seen any purple corn nor have I had any calls. Purple corn can be caused by genetic tendencies, phosphorus deficiency, root problems that induce a phosphorus deficiency and sometimes by herbicide carryover.

My guess is that when plants are slow to grow and root growth is minimal early in the season, soils that are marginally deficient in phosphorus will show up. I have a phosphorus rate experiment at the Northeast Research and Extension Center. In some years the phosphorus deficiency (severe stunting) is much more pronounced than in other years. Whether there is yield reduction depends on future growth conditions. Ten parts per million should not cause severe yield reductions unless slow growth now affects other factors later.

Gary Hergert, Extension Soils Specialist at the West Central Re-

search and Extension Center, responded: I just had a consultant in who had purple corn from a sandy soil south of North Platte. He has not seen general purpling in our area (and neither have I) and in this case the purpling is specific to one company's hybrid.

Many factors cause purpling (anthocyanin accumulation due to slow metabolism of plant sugars). In this field soil test phosphorus ranged from 10 to 84 ppm phosphorus and lower testing areas showed more purpling. This range of differences can be common and has been shown by fields we have sampled on 100 foot grids. The 10 ppm should not cause severe yield depressions. Based on phosphorus research plots at the West Central Research and Extension Center at 6 ppm, 10 ppm can provide up to 85% of maximum yield.

Use precautions with total vegetation herbicides

Total vegetation control is desirable in a number of non-agricultural settings including parking areas, machinery lots, and storage areas. Herbicides commonly used for long-term vegetation control include Arsenal, Hyvar, Krovar, Karmex, Pramitol, Oust and Spike. These materials have extended soil activity and control vegetation for one year or longer depending on application rate. The best time to apply these herbicides is just prior to the rainy season.

Because of their residual activity and non-selective control, good judgement is necessary for their use. Offsite movement and plant damage can occur when winds move treated soils. On sloping surfaces, a hard rain right after application may cause movement down-slope with

runoff resulting in injury to non-target plants.

These herbicides have high soil activity and can damage nearby trees if the roots extend into the treated area. The roots of large trees usually extend beyond the drip line of the tree — at least twice the diameter of the canopy.

In some cases, resistant weeds have developed as a result of the frequent use of the same herbicide. Kochia has developed resistance to Pramitol and in some cases to Arsenal and Oust. Alternating or combining herbicides can help delay development of and combat resistant weeds.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant
Weed Science

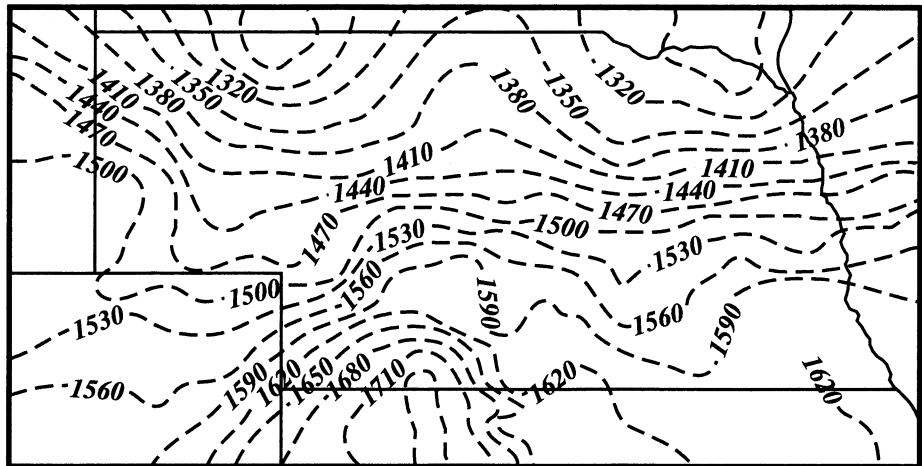
Weather/crop update

NOTE: A worksheet to help determine treatment needs for first generation **European corn borer** is available on the web at: <http://www.ianr.unl.edu/pubs/crpwatch/cornborer.htm>

Precipitation

(% = percent of average)

	6/9-6/15		9/1-6/15	
	Act.	%	Act.	%
Ainsworth	0.43	50	15.34	102
Alliance	1.02	149	8.56	78
Beatrice	2.12	222	12.74	64
Concord	1.07	105	14.78	78
Elgin	0.24	25	10.76	62
Holdrege	0.68	75	12.79	81
McCook	1.13	136	11.14	80
Mead	0.08	8	7.19	36
North Platte	1.38	178	13.70	107
Ord	0.39	41	11.17	64
Red Cloud	0.33	36	11.54	71
Scottsbluff	0.47	74	8.95	85
Sidney	0.59	85	14.34	128
York	1.02	105	11.24	59



Common stalk borer

Growing degree day accumulations on a 41 F base for stalk borers. Begin scouting at 1,300-1,400 accumulated GDDs.

.....

The weather data on this page is provided as space is available. For data on more emergence dates and maturity classes, consider

subscribing to *CropWatch* on the web, where crop water use data is updated daily and other weather information is provided in more detail.

Degree day accumulations for wheat, corn, soybeans and sorghum*

	Med. maturity wheat ending on 6/15						Corn ending 6/15/97						Soybeans ending on 6/15/97						Sorghum ending on 6/15/97					
	Emer	Act	Norm	%	+/-	MC	Emer	Act	Norm	%	+/-	MC	Emer	Act	Norm	%	+/-	MC	Emer	Act	Norm	%	+/-	MC
Ainsworth	4/1	1057	1248	-10	2	5/27	273	304	-1	1	5/27	273	304	-2	1	6/1	217	239	-1	1				
Alliance	3/24	1091	1167	-4	2	5/27	247	268	1	2	5/27	247	268	-1	1	6/1	185	209	-1	1				
Beatrice	3/17	1370	1597	-11	3	5/21	359	489	-4	3	5/27	314	455	-5	3	5/31	266	330	-3	3				
Concord	4/1	1070	1348	-15	2	5/26	307	358	-2	2	5/24	286	301	-1	2	6/1	252	271	-1	2				
Elgin	4/1	1067	1336	-15	2	5/26	283	351	-3	2	5/30	263	296	-1	2	6/1	230	266	-2	2				
Holdrege	3/17	1284	1520	-12	3	5/18	355	456	-3	3	5/22	321	408	-3	3	6/1	233	272	-2	3				
McCook	3/17	1428	1399	1	3	5/19	379	417	-1	3	5/25	283	329	-2	3	5/30	281	281	0	3				
Mead	3/24	1284	1520	-12	3	5/22	366	459	-3	3	6/7	155	191	-2	2	5/30	297	336	-2	3				
North Platte	3/17	1331	1351	-1	2	5/19	342	400	-2	3	5/25	283	329	-2	3	5/30	253	266	-1	3				
Ord	3/24	1205	1415	-11	2	5/22	311	411	-3	3	5/20	338	436	-3	3	5/23	303	399	-4	3				
Red Cloud	3/17	1380	1467	-4	3	5/18	394	460	-2	3	5/22	353	412	-2	3	6/1	255	274	-1	3				
Scottsbluff	3/24	1216	1175	2	2	5/27	273	271	0	2	5/27	273	271	0	1	6/1	206	211	0	1				
Sidney	3/17	1222	1210	1	2	5/27	247	269	-1	2	5/27	247	269	-1	1	6/1	187	209	-1	1				
York	3/24	1272	1470	-10	3	5/22	347	438	-3	3	6/5	186	220	-1	2	5/23	334	425	-4	3				

*Growing degree days to maturity for early season (1), mid season (2) and late season (3) crops:

MC = maturity class

Corn: MC1 = 2400; MC2 = 2500; and MC3 = 2750

Wheat: MC1 = 1600; MC2 = 1840; and MC3 = 2000

Soybeans: MC1 = 1950; MC2 = 2360; and MC3 = 2450

Sorghum: MC1 = 2125; MC2 = 2200; and MC3 = 2369